

fluid from the first fluid jetting mechanism, the step of conveying the substrate from the first base to the second base and attaching the substrate to the second substrate holding mechanism, and the step of driving the second
5 substrate holding mechanism so as to hold the substrate by the second base while the third substrate holding mechanism is holding the substrate, and thereafter jetting out fluid from the second fluid jetting mechanism and canceling the holding of the substrate by the third
10 substrate holding mechanism are provided.

According to this method of conveying a substrate, at the time of canceling the holding of the substrate by the first substrate holding mechanism, fluid is jetted out from the first fluid jetting mechanism.
15 Accordingly, dust (particles etc.) adhering to the first substrate holding mechanism is removed by the jet of fluid. Likewise, at the time of canceling the holding of the substrate by the third substrate holding mechanism, fluid is jetted out from the second fluid jetting mechanism.
20 Accordingly, dust adhering to the third substrate holding mechanism is also removed by the jet of fluid. Thus, it is possible to prevent dust from adhering to each holding mechanism. Therefore, it is possible to prevent the attraction force of each holding mechanism from decreasing
25 over time, and it is possible to prevent dust from each holding mechanism from adhering to the substrate.

Further, according to the above-described invention, at the time of transferring the substrate from the first base to the conveyor, the third substrate
30 holding mechanism is driven so as to hold the substrate by the conveyor while the first base is holding the substrate, and thereafter, the holding of the substrate by the first substrate holding mechanism is canceled. Accordingly, a

substrate can be held by the first substrate holding mechanism after being subjected to backside etching.

The present invention is effective when applied to a substrate that is subject to warping as a result of
5 reduction in its thickness by backgrinding.

Further, in order to achieve the above-described objects, in the above-described method of conveying a substrate according to the present invention, at least one of the first and second bases and the conveyor are
10 provided in reduced pressure chambers, and the substrate holding mechanism provided to the base provided in the reduced pressure chamber and the third substrate holding mechanism can be electrostatic chucks.

According to the present invention, by letting
15 the third substrate holding mechanism be an electrostatic chuck, even when either one of the first and second bases and the conveyor are provided in the reduced pressure chambers, the substrate can be conveyed with reliability.

Further, in order to achieve the above-described
20 objects, according to the present invention, in a method of conveying a substrate that conveys the substrate from a first base including a first substrate holding mechanism to a second base including a second substrate holding mechanism using a conveyor including a third substrate
25 holding mechanism, the step of the conveyor attaching the third substrate holding mechanism including an electrostatic chuck and a second fluid jetting mechanism to the substrate with the first substrate holding mechanism holding the substrate, the step of driving the
30 third substrate holding mechanism so as to hold the substrate by the conveyor while the first base is holding the substrate, and thereafter canceling the holding of the substrate by the first substrate holding mechanism, the

step of conveying the substrate from the first base to the second base and attaching the substrate to the second substrate holding mechanism, and the step of driving the second substrate holding mechanism so as to hold the
5 substrate by the second base while the third substrate holding mechanism is holding the substrate, and thereafter jetting out fluid from the second fluid jetting mechanism and canceling the holding of the substrate by the third substrate holding mechanism are provided.

10 According to the present invention, at the time of transferring the substrate from the first base to the conveyor, the third substrate holding mechanism is driven so as to hold the substrate by the conveyor while the first base is holding the substrate, and thereafter, the
15 holding of the substrate by the first substrate holding mechanism is canceled. Accordingly, a state where a holding force is constantly applied to the substrate is maintained.

 Further, at the time of transferring the
20 substrate from the conveyor to the second base, the second substrate holding mechanism is driven so as to hold the substrate by the second base while the conveyor is holding the substrate, and thereafter, the holding of the substrate by the third substrate holding mechanism is
25 canceled. Accordingly, a holding force is also applied to the substrate constantly at the time of transferring the substrate from the conveyor to the second base. This makes it possible to prevent warping or curving from occurring to the substrate, so that it is possible to
30 maintain the flatness of the substrate at the time of conveyance.

 Further, in order to achieve the above-described objects, according to the present invention, in a method

of conveying a substrate that conveys the substrate to a base including a first substrate holding mechanism using a conveyor including a second substrate holding mechanism,

CLAIMS

1. (Amended) A method of conveying a substrate,
the method conveying the substrate from a first base
5 including a first substrate holding mechanism and a first
fluid jetting mechanism to a second base including a
second substrate holding mechanism using a conveyor
including a third substrate holding mechanism and a second
fluid jetting mechanism, the method comprising the steps
10 of:

the conveyor attaching the third substrate
holding mechanism to the substrate with the first
substrate holding mechanism holding the substrate;

driving the third substrate holding mechanism so
15 as to hold the substrate by the conveyor while the first
base is holding the substrate, and thereafter canceling
the holding of the substrate by the first substrate
holding mechanism and jetting out fluid from the first
fluid jetting mechanism;

20 conveying the substrate from the first base to
the second base and attaching the substrate to the second
substrate holding mechanism; and

driving the second substrate holding mechanism
so as to hold the substrate by the second base while the
25 third substrate holding mechanism is holding the substrate,
and thereafter jetting out fluid from the second fluid
jetting mechanism and canceling the holding of the
substrate by the third substrate holding mechanism.

30 2. (Amended) A method of conveying a substrate,
the method conveying the substrate from a first base
including a first substrate holding mechanism and a first
fluid jetting mechanism to a second base including a

second substrate holding mechanism using a conveyor including a third substrate holding mechanism and a second fluid jetting mechanism, the method comprising the steps of:

5 the conveyor attaching the third substrate holding mechanism to the substrate with the first substrate holding mechanism holding the substrate;
 driving the third substrate holding mechanism so as to hold the substrate by the conveyor while the first
10 base is holding the substrate, and thereafter canceling the holding of the substrate by the first substrate holding mechanism and jetting out fluid from the first fluid jetting mechanism;

 conveying the substrate from the first base to
15 the second base and attaching the substrate to the second substrate holding mechanism;

 driving the second substrate holding mechanism so as to hold the substrate by the second base while the third substrate holding mechanism is holding the substrate,
20 and thereafter jetting out fluid from the second fluid jetting mechanism and canceling the holding of the substrate by the third substrate holding mechanism; and

 cleaning the third substrate holding mechanism provided to the conveyor.

25

3. (Amended) A method of conveying a substrate, the method conveying the substrate from a first base including a first substrate holding mechanism and a first fluid jetting mechanism to a second base including a
30 second substrate holding mechanism using a conveyor including a third substrate holding mechanism and a second fluid jetting mechanism, the method comprising the steps of:

the conveyor attaching the third substrate holding mechanism to the substrate with the first substrate holding mechanism holding the substrate;

driving the third substrate holding mechanism so
5 as to hold the substrate by the conveyor while the first base is holding the substrate, and thereafter canceling the holding of the substrate by the first substrate holding mechanism and jetting out fluid from the first fluid jetting mechanism;

10 conveying the substrate from the first base to the second base and attaching the substrate to the second substrate holding mechanism; and

driving the second substrate holding mechanism so as to hold the substrate by the second base while the
15 third substrate holding mechanism is holding the substrate, and thereafter jetting out fluid from the second fluid jetting mechanism and canceling the holding of the substrate by the third substrate holding mechanism,

wherein the substrate is held by the first
20 substrate holding mechanism after being subjected to backgrinding.

4. (Amended) A method of conveying a substrate, the method conveying the substrate from a first base
25 including a first substrate holding mechanism and a first fluid jetting mechanism to a second base including a second substrate holding mechanism using a conveyor including a third substrate holding mechanism and a second fluid jetting mechanism, the method comprising the steps
30 of:

the conveyor attaching the third substrate holding mechanism to the substrate with the first substrate holding mechanism holding the substrate;

driving the third substrate holding mechanism so as to hold the substrate by the conveyor while the first base is holding the substrate, and thereafter canceling the holding of the substrate by the first substrate
5 holding mechanism and jetting out fluid from the first fluid jetting mechanism;

conveying the substrate from the first base to the second base and attaching the substrate to the second substrate holding mechanism;

10 driving the second substrate holding mechanism so as to hold the substrate by the second base while the third substrate holding mechanism is holding the substrate, and thereafter jetting out fluid from the second fluid jetting mechanism and canceling the holding of the
15 substrate by the third substrate holding mechanism; and

cleaning the third substrate holding mechanism provided to the conveyor,

wherein the substrate is held by the first substrate holding mechanism after being subjected to
20 backgrinding.

5. The method of conveying the substrate as claimed in claim 1, characterized in that:

at least one of the first and second bases and
25 the conveyor are provided in reduced pressure chambers, and the substrate holding mechanism provided to the base provided in the reduced pressure chamber and the third substrate holding mechanism are electrostatic chucks.

30 6. The method of conveying the substrate as claimed in claim 2, characterized in that:

at least one of the first and second bases and the conveyor are provided in reduced pressure chambers,

and the substrate holding mechanism provided to the base provided in the reduced pressure chamber and the third substrate holding mechanism are electrostatic chucks.

5 7. The method of conveying the substrate as claimed in claim 3, characterized in that:

 at least one of the first and second bases and the conveyor are provided in reduced pressure chambers, and the substrate holding mechanism provided to the base
10 provided in the reduced pressure chamber and the third substrate holding mechanism are electrostatic chucks.

 8. The method of conveying the substrate as claimed in claim 4, characterized in that:

15 at least one of the first and second bases and the conveyor are provided in reduced pressure chambers, and the substrate holding mechanism provided to the base provided in the reduced pressure chamber and the third substrate holding mechanism are electrostatic chucks.

20 9. (Amended) A method of conveying a substrate, the method conveying the substrate from a first base including a first substrate holding mechanism to a second base including a second substrate holding mechanism using
25 a conveyor including a third substrate holding mechanism, the method comprising the steps of:

 the conveyor attaching the third substrate holding mechanism including an electrostatic chuck and a second fluid jetting mechanism to the substrate with the
30 first substrate holding mechanism holding the substrate;
 driving the third substrate holding mechanism so as to hold the substrate by the conveyor while the first base is holding the substrate, and thereafter canceling

the holding of the substrate by the first substrate holding mechanism;

conveying the substrate from the first base to the second base and attaching the substrate to the second substrate holding mechanism; and

driving the second substrate holding mechanism so as to hold the substrate by the second base while the third substrate holding mechanism is holding the substrate, and thereafter jetting out fluid from the second fluid jetting mechanism and canceling the holding of the substrate by the third substrate holding mechanism.

10. A method of conveying a substrate, the method conveying the substrate to a base including a first substrate holding mechanism using a conveyor including a second substrate holding mechanism, the method comprising the steps of:

the conveyor attaching the substrate on the first substrate holding mechanism of the base with the second substrate holding mechanism holding the substrate;

releasing the holding of the substrate by the second substrate holding mechanism after mechanically holding the substrate between the first substrate holding mechanism and the second substrate holding mechanism; and

driving the first substrate holding mechanism so as to hold the substrate by the base while the substrate is being held mechanically between the first and second substrate holding mechanisms.

11. The method of conveying the substrate as claimed in claim 9, wherein the substrate is held by the first substrate holding mechanism after being subjected to backgrinding.

12. The method of conveying the substrate as claimed in claim 9, wherein:

at least one of the first and second bases and the conveyor are provided in reduced pressure chambers,
5 and the substrate holding mechanism provided to the base